



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,979	02/05/2004	Wayne A. Becker	1001.1526101	5206
28075	7590	09/18/2007	EXAMINER	
CROMPTON, SEAGER & TUFTE, LLC			EREZO, DARWIN P	
1221 NICOLLET AVENUE			ART UNIT	PAPER NUMBER
SUITE 800			3731	
MINNEAPOLIS, MN 55403-2420				
MAIL DATE		DELIVERY MODE		
09/18/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/772,979	BECKER ET AL.
	Examiner	Art Unit
	Darwin P. Erez	3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 June 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-44 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102 – Previously Presented

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 8-10 and 12-15 are rejected under 35 U.S.C. 102(b) as being**

anticipated by US 6,165,163 to Chien et al.

3. (claim 1) The Chien reference discloses a sheath capable of deploying an embolic filter, the sheath comprising:

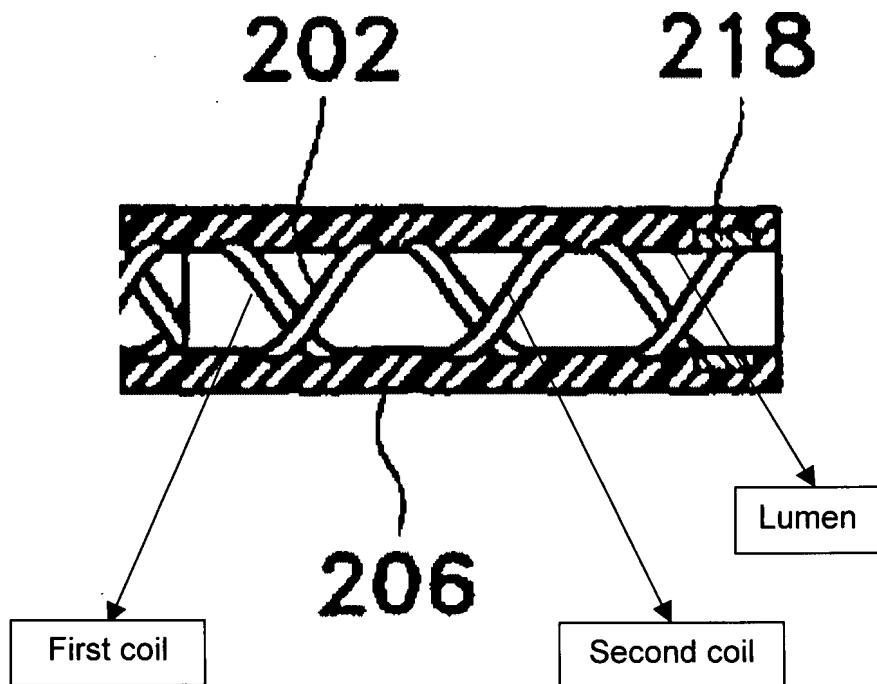
an elongate shaft 200 having a distal end and a lumen (see Fig. 2);

a coil assembly 202 including:

 a first coil defining a lumen, the first coil being wound in a first direction (see attached portion of Fig. 2),

 a second coil wound in a second direction, the second coil being disposed around the first coil (as seen below, the second coil is disposed around the first coil);

 wherein the coil assembly is attached to the distal end 206 of the shaft, and the lumen of the shaft is in fluid communication with the lumen of the first coil (see attached portion of Fig. 2, below).



(claims 8-10) Chien discloses the first coil and the second coil being made of a metallic ribbon having a rectangular cross-section, as seen in Fig. 9.

(claim 12) Chien discloses the coil assembly having coat layer comprising a polymer (col. 8, lines 28-37).

(claim 13) Chien discloses the coil assembly heat bonded to the shaft (col. 14, lines 51-60). It should also be noted that the claimed limitation is being treated as a product-by-process claim. As set forth in MPEP 2113, product by process claims are NOT limited to the manipulations of the recited step, only to the structure implied by the step. Therefore, the process of heating the shaft to the coil assembly does not hold any patentable weight.

(claims 14 and 15) Chien discloses that the first coil and the second coil may be polymer coated (col. 14, lines 36-40).

Claim Rejections - 35 USC § 103 – Previously Presented

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chien et al. as applied to claim 1 above, and in view of US 5,429,597 to DeMello et al.**

(claims 2-4) Chien discloses all the limitations of the claims, except for the coils being multifilar. However, DeMello discloses a similar catheter having a shaft that is also reinforced with coils, wherein the coils are multifilar (col. 2, lines 36-41). Thus, the multifilar coil of DeMello is an equivalent structure known in the art. Therefore, since the coil of Chien and the multifilar coil of DeMello were art-recognized equivalents at the

time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the multifilar coil of DeMello for the coil of Chien.

(claims 5-7) Chien discloses all the limitations of the claims, except for the coil having a circular cross-section. Instead, Chien discloses a rectangular cross-section, as shown in Fig. 9. However, DeMello discloses a similar catheter comprising a shaft having a reinforced coil, wherein the coil is shown to have either a circular cross-section or a rectangular cross-section (col. 3, lines 40-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the coil of Chien to have a circular cross-section because DeMello discloses that a coil having a circular cross-section or a rectangular cross-section are art recognized equivalents and would perform equally as well as a coil having rectangular cross-section. Furthermore, the applicant has not provided any criticality for the coil having a circular cross-section rather than a rectangular cross-section.

7. **Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chien et al. as applied to claim 1 above, and in view of US 6,143,013 to Samson et al.**

Chien discloses all the limitation of the claim, except for the coil assembly having a proximal taper. Instead, Chien appears to disclose a straight shaft without any tapering. However, Samson discloses a similar-type of reinforced catheter, wherein the catheter comprises a coil assembly 206, and wherein the coil assembly includes a tapering portion along the length of the shaft. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shaft and

coil assembly of Chien to have a tapered portion because the shape of the shaft is merely dependent on the intended use of the device. It is well known in the art to have catheters with varying shapes and sizes. Furthermore, it would have been obvious to one having ordinary skill in the art to modify the proximal end to have a tapering since it has been held that changing the shape of a working part involves only routine skill in the art. *In re Dailey*; 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

8. **Claims 16, 23-25, 27-31, 38-40 and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,873,978 to Ginsburg and in view of Chien et al, which is recited above.**

(claims 16 and 31) Ginsburg discloses an embolic protection sheath comprising: an elongate shaft **12** having a distal end and a lumen (see Fig. 2); and an embolic protection device including an elongate wire **22** and a filter **14** attached thereto, wherein the wire is disposed at least in part of the shaft lumen (see Fig. 2 or 3).

Ginsburg is silent with regards to the elongate shaft and its distal end comprising a coil assembly; wherein the coil assembly includes a first coil and a second a second coil wound in opposite direction, and wherein the lumen of the shaft is in fluid communication with the lumen of the first coil.

Chien discloses a reinforced catheter capable of delivering an embolic protection device, wherein the catheter includes an elongate shaft **200** having a distal end and a lumen (see Fig. 2); a coil assembly **202** including a first coil defining a lumen, the first coil being wound in a first direction (see attached portion of Fig. 2), a second coil

wound in a second direction, the second coil being disposed around the first coil (as seen below, the second coil is disposed around the first coil); and wherein the coil assembly is attached to the distal end **206** of the shaft, and the lumen of the shaft is in fluid communication with the lumen of the first coil (see attached portion of Fig. 2). The reinforced catheter of Chien provides a kink-resistant shaft.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the catheter of Chien in the device of Ginsburg because the reinforced catheter of Chien is kink resistant but still flexible enough to move through the vascular system. Being kink resistant would guarantee that the catheter will not collapse.

(claims 23-25 and 38-40) Chien discloses the first coil and the second coil being made of a metallic ribbon having a rectangular cross-section, as seen in Fig. 9.

(claims 27 and 42) Chien discloses the coil assembly having coat layer comprising a polymer (col. 8, lines 28-37).

(claim 28) Chien discloses the coil assembly heat bonded to the shaft (col. 14, lines 51-60). It should also be noted that the claimed limitation is being treated as a product-by-process claim. As set forth in MPEP 2113, product by process claims are NOT limited to the manipulations of the recited step, only to the structure implied by the step. Therefore, the process of heating the shaft to the coil assembly does not hold any patentable weight.

(claims 29, 30, 43 and 44) Chien discloses that the first coil and the second coil may be polymer coated (col. 14, lines 36-40).

9. **Claims 17-22 and 32-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ginsburg and Chien et al., as applied to claims 16 and 31 above, and in view of DeMello et al., as applied to claims 2-7.**

(claims 17-19 and 32-34) The above combination of Ginsburg/Chien discloses all the limitations of the claims, except for the coils being multifilar. However, DeMello discloses a similar catheter having a shaft that is also reinforced with coils, wherein the coils are multifilar (col. 2, lines 36-41). Thus, the multifilar coil of DeMello is an equivalent structure known in the art. Therefore, since the coil of Chien and the multifilar coil of DeMello were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the multifilar coil of DeMello for the coil of Chien.

(claims 20-22 and 35-37) The above combination of Ginsburg/Chien discloses all the limitations of the claims, except for the coil having a circular cross-section. Instead, Chien discloses a rectangular cross-section, as shown in Fig. 9. However, DeMello discloses a similar catheter comprising a shaft having a reinforced coil, wherein the coil is shown to have either a circular cross-section or a rectangular cross-section (col. 3, lines 40-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the coil of Chien to have a circular cross-section because DeMello discloses that a coil having a circular cross-section or a rectangular cross-section are art recognized equivalents and would perform equally as well as a coil having rectangular cross-section. Furthermore, the applicant has not

provided any criticality for the coil having a circular cross-section rather than a rectangular cross-section.

10. Claims 26 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Ginsburg and Chien et al. as applied to claims 16 and 31 above, and in view of Samson et al., as applied to claim 11 above.

The above combination of Ginsburg/Chien discloses all the limitation of the claim, except for the coil assembly having a proximal taper. Instead, Chien appears to disclose a straight shaft without any tapering. However, Samson discloses a similar-type of reinforced catheter, wherein the catheter comprises a coil assembly 206, and wherein the coil assembly includes a tapering portion along the length of the shaft. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shaft and coil assembly of Chien to have a tapered portion because Samson discloses that tapering coil assemblies are known in the art. Furthermore, it would have been obvious to one having ordinary skill in the art to modify the proximal end to have a tapering since it has been held that changing the shape of a working part involves only routine skill in the art. *In re Dailey*; 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Response to Arguments

11. Applicant's arguments filed 6/29/07 have been fully considered but they are not persuasive.

The applicant argued that the Chien reference fails to disclose "a coil assembly including a first coil defining a lumen, the first coil being wound in a first direction and

second coil being wound in a second direction, the second coil being disposed about the first coil". It was argued that braided members 202 are not disposed around each other. Instead, it was argued that the braided member are interlaced with each other, as is well known in the art of weaving. The examiner agrees with the fact that the braided members are "weaved" with each other. As shown in the attached Fig. 2 of Chien, these braided members 202 comprises of strands that are weaved on opposite directions. These strands are also being interpreted as being "disposed around each other" because the limitation merely requires that the strands are located/arranged around each other. That is, the limitation does not clearly state "how" the second coil is disposed around the first coil. Therefore, the coil of Chien, as interpreted above, anticipates the broadest reasonable interpretation of the claimed limitation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darwin P. Erez whose telephone number is (571) 272-4695. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jackie Ho can be reached on (571) 272-4696. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Darwin P. Erez
Examiner
Art Unit 3731

de